

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte SATOSHI KOMOTO,  
TOSHIAKI TANAKA, and NORIO FUJIMURA

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Appeal No. 2001-2209  
Application No. 09/019,158

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ON BRIEF

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Before KRASS, RUGGIERO, and BARRY, Administrative Patent Judges.  
RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 14 and 17-19. Claims 1-5, 8-13, 15 and 16 have been canceled and claims 6 and 7 stand withdrawn from consideration as being directed to a non-elected invention. Amendments filed July 13, 2000 and July 27, 2000 after final rejection have been approved for entry by the Examiner.

The claimed invention is directed to a semiconductor light-emitting device having at least two parallel leads with a light-emitting chip mounted on the distal end of at least one of the leads.

Further provided are a bonding wire for electrically connecting the light-emitting chip and the distal end of the other of the leads and a light-transmitting resin envelope for sealing the light-emitting chip, the bonding wire, and the distal ends of the leads. More particularly, the resin envelope is elliptical in shape as opposed to the circular shape of the conventional resin envelope. According to Appellants (Specification, page 8), the elliptical cross-sectional configuration of the resin envelope results in enhanced light output without sacrificing production efficiency.

Claim 14 is illustrative of the invention and reads as follows:

14. A semiconductor light-emitting device comprising:

at least two parallel leads having adjacent distal ends;

a semiconductor light-emitting chip mounted on the distal end of one of said leads;

a bonding wire for electrically connecting the semiconductor light-emitting chip and the distal end of another of the at least two leads; and

a light transmitting resin, for sealing said semiconductor light-emitting chip, said bonding wire, and the distal ends of said leads, the light-transmitting resin having a side surface defined in lateral cross section by an ellipse having a long axis and a short axis, the long axis being perpendicular to a lateral straight line as extending through said at least two parallel leads, and a convex external end surface for transmitting light from the semiconductor light-emitting chip to the exterior of the light-transmitting resin.

The Examiner relies on the following prior art references:<sup>1</sup>

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<sup>1</sup> In addition, the Examiner relies on Appellants' admitted prior art illustrated in Figures 1 through 4B and  
(continued...)

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Fukuda <sup>2</sup> (Published Japanese Patent Application)	JP 64-32688	Feb. 02, 1989
Suehiro et al. (Suehiro) (Published Japanese Patent Application)	JP 3-171681	Jul. 25, 1991

Claims 14 and 17-19 stand finally rejected under 35 U.S.C. § 103(a). As evidence of obviousness, the Examiner offers Appellants' admitted prior art in view of Suehiro with respect to claims 14, 17, and 19, and adds Fukuda to the basic combination with respect to claim 18.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs and Answer for the respective details.

#### OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

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<sup>1</sup>(...continued)  
described at pages 1-3 of Appellants' specification.

<sup>2</sup> Although not listed in the "Prior Art of Record" section of the Answer, Fukuda is applied by the Examiner in the rejection of claim 18.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention as set forth in claims 14 and 17-19. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to independent claim 14, the Examiner, as the basis for the obviousness rejection, proposes to modify the disclosure of Appellants' admitted prior art semiconductor light-

emitting device. The Examiner recognizes and admits (Answer, page 4) that the admitted prior art lacks a teaching of a device having an elliptically shaped lateral cross-section and, to address this deficiency, the Examiner turns to Suehiro (Figure 1) which describes a light-emitting diode which is constructed to have such an elliptical shape. According to the Examiner (id., at 5), the skilled artisan would have been motivated and found it obvious to combine Suehiro's teaching of an elliptically shaped light-emitting diode structure with the admitted prior art "... because it would improve the efficiency of the semiconductor light-emitting device."

Appellants' arguments (Brief, pages 8 and 9) in response to the obviousness rejection assert that a prima facie case of obviousness has not been established since there is no suggestion or motivation in the disclosures of the admitted prior art and Suehiro references for the Examiner's proposed combination. Upon careful review of the applied prior art in light of the arguments of record, we are in general agreement with Appellants' stated position in the Briefs. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F. 2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

In our view, while the Examiner asserts (Answer, page 6) that the applied prior art references "... seek solutions to like problems in the art," we find no evidence in the disclosure of the references or elsewhere on the record that would support such a conclusion. For example, while the Examiner is correct that the admitted prior art recognizes the problems attendant to increasing the diameter of the light emitting device envelope while maintaining uniform spacing of the lead groups

(Specification, page 3), there is no indication in the disclosure of Suehiro that uniform spacing of lead groups was ever a concern.

Similarly, the Examiner correctly characterizes Suehiro's disclosure as directed to improving prior art light emitting device operation by increasing light emission in a particular selected direction through the displacement of the center of the elliptically shaped light emitting device along the central axis of a reflection surface of the device. It is apparent, however, that, since Suehiro's entire disclosure is directed to the improvement of an existing elliptically shaped light emitting device, there is no suggestion or teaching of substituting an elliptically shaped device for any other particular shaped light emitting devices such as the circular shape of the admitted prior art. Given the above deficiencies in the applied prior art, it is our opinion that any suggestion to replace the circular shaped light emitting device of the admitted prior art with an elliptically shaped device such as in Suehiro could come, not from any teachings in the references themselves but, rather, only from Appellants' own disclosure.

Further, as asserted by Appellants (Brief, page 9), the record before us is totally devoid of any evidence to support the Examiner's conclusion (Answer, page 5) that the proposed combination of the admitted prior art and Suehiro would improve the efficiency of the resultant light emitting device. The Examiner must not only make requisite findings, based on the evidence of record, but must also explain the reasoning by which the findings are deemed to support the asserted conclusion. See In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002).

We have also reviewed the disclosure of Fukuda applied by the Examiner to address the lead structure

limitations of dependent claim 18. We find nothing, however, in the disclosure of Fukuda which would overcome the deficiencies of the admitted prior art and Suehiro discussed supra.

In view of the above discussion, it is our view that, since all of the limitations of the appealed claims are not taught or suggested by the applied prior art references, the Examiner has not established a prima facie case of obviousness. Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 14, as well as claims 17-19 dependent thereon, is not sustained.

In conclusion, we have not sustained the Examiner's 35 U.S.C. § 103(a) rejection of any of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 14 and 17-19 is reversed.

REVERSED

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ERROL A. KRASS  
Administrative Patent Judge

JOSEPH F. RUGGIERO  
Administrative Patent Judge

LANCE LEONARD BARRY  
Administrative Patent Judge

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